



Chico

**Golden  
Empire  
Amateur  
Radio  
Society, Inc.**

www.gearsww6rhc.org

"Dedicated to Public Service"

# THE RADIATOR



W6RHC  
IRLP #8170



P.O.Box 202 Chico, CA 95927

June 2023 Newsletter

GEARS Founded August 13, 1939

GEARS President Kent Hastings WA6ZFY has moved away from Chico to attend to family matters. I'm sure we will all miss him. For the remainder of the year, other GEARS board members will step up and keep the club running.

A couple weeks ago the Kristina Chesterman Memorial Bike ride volunteers used the GEARS West Repeater due to it's excellent coverage into the foothills including Sterling City. The ride was held in memory of Kristina who was killed in 2013 by a drunk driver in Chico.

As we approach the lazy days of summer, we have a lot to look forward to. GEARS will host Field Day on June 24 - 25 at the Masonic Family Center, 1110 W. East Ave, Chico. We will set up Saturday morning and operate the full 24 hours. We'll have a BBQ dinner on Saturday. Everybody is invited. We will plan this event at the GEARS general meeting on June 19<sup>th</sup>. I'll email the details before that weekend.

This year GEARS will be hosting the Steak Bake in September. I'll email the details before the event.

Of course we have our regular activities as well. The ham radio breakfast will be at 9 am Saturday, June 10<sup>th</sup> at Farmer's Skillet on Cohasset in Chico.

VEC Testing will be June 4<sup>th</sup>, For information or registration call Tom Rider, W6JS 530-514-9211.

The general meeting Monday on June 19<sup>th</sup> is at the Chico Public Library, 1108 Sherman Ave. 6 pm social hour, 7 pm meeting. This will be our Field Day planning meeting.

Check in to the GEARS net at 7:30 pm Tuesdays on 146.85 - pl 110.9. We'd love to hear from you every week.

In this addition of The Radiator, we'll take a look at Artificial Intelligence or AI. Two articles were written by Chat GPT. We also have an article by GEARS board member Larry Mitchell KF6NCX about a special-event coming up.

Let's have a great summer.

Jim Matthews K6EST

## June 2023 Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 7:30pm Simplex Net	2	3
4 2pm VEC Testing 8pm OARS Net	5 7pm GARS Net 7pm GEARS Board Meeting 8pm ARES Net	6 7pm PARS Net 7:30pm GEARS Net	7	8 6:30 pm PARS meetings 7:30pm Simplex Net	9 7pm OARS meeting 7pm GARS meeting	10 9am Chico Breakfast
11 8pm OARS Net	12 7pm GARS Net 8pm ARES Net	13 7pm PARS Net 7:30pm GEARS Net	14	15 7:30pm Simplex Net	16	17
18 8pm OARS Net	19 7pm GARS Net 8pm ARES Net 6pm GEARS Meeting	20 7pm PARS Net 7:30pm GEARS Net	21	22 7:30 Simplex Net	23	24 9am OARS Breakfast FIELD DAY
25 FIELD DAY	26 7pm GARS Net 8pm ARES Net	27 7pm PARS Net 7:30pm GEARS Net	28	29 7:30 Simplex Net	30	

**VEC Testing**, FCC License Exam available by appointment. For information or registration call Tom Rider, W6JS 530-514-9211

**Chico Breakfast** 2nd Saturday 9am Farmers Skillet Cohasset Rd, Chico

**GEARS** Board Meeting 1st Monday 7pm by Google video meetups.

**PARS Meeting** 2nd Thursday 6:30pm, doors open 6pm Old Magalia Community Resource Center

**OARS Meeting** Second Friday of the month, St. Pauls Episcopal Church Hall, Oroville.

**GARS Meeting** Second Friday of the month, Lutheran Church Hall, Artois.

**GEARS Meeting**, Doors open 6pm, meeting 7pm at Chico Public Library, 1108 Sherman Ave, Chico

**OARS Breakfast** 4th Saturday of the month, at Cornucopia of Oroville.

### NETS:

OARS Club Net Sunday 8pm 146.655 Mhz - PL 136.5

GARS Club Net Monday, 7:00 pm 147.105 MHz + PL 110.09, secondary: 146.850 MHz-PL 110.9

Yuba Sutter Club Net Monday 7pm 146.085 MHz + PL 127.3

GEARS Club Net Tuesdays 7:30 PM 146.850 MHz - PL 110.9

PARS Club Net Tuesday 7pm 145.290 - PL 110.9

Simplex Net Thursday 7:30 p.m. 146.52 no tone

Yuba Sutter ARES Net Thursdays 7pm 146.085 MHz + PL 127.3

Sacramento Valley Traffic Net Nightly 9:00 PM 146.850 MHz - PL 110.9

## Lewis & Clark Trail on the Air

By Larry Mitchell KF6NCX

This month, hams can travel the historic Lewis and Clark Trail without leaving their shacks.

The Clark County Amateur Radio Club in Vancouver, WA, is sponsoring an amateur radio special event commemorating the Lewis and Clark expedition, which started near St. Louis in 1804 and traveled through 16 states to the Pacific Coast and back, returning in 1806 to where it started from.

Twenty-one ham radio clubs are working with the Clark County club to put on the special event, which will run from June 3 to June 18.

All you have to do is work activator stations on the HF bands. They'll be on 10, 15, 20, 40 and 80 meters. If you work at least one station, you'll be entitled to a Trail Companion certificate. If you can work stations in all 16 states, you'll have earned an Expedition Partner certificate.

Listen for activator stations calling cq on phone, cw and FT8. To work them, you exchange calls signs and states. On FT8, the exchange is call sign, grid square and signal report.

For full information, go to [www.lctota.org](http://www.lctota.org) or search for Lewis and Clark Trail on the Air.

The activator stations plan to be on the air 24 hours a day (in shifts) during the special event period. A schedule for activators can be found on the website.

The sponsor club plans to make this special event an annual affair. It was first held last year.

Lewis and Clark were commissioned by the U.S. Government to make the expedition. They set out with 50 men, mostly soldiers, and traveled more than 4,000 miles to reach the West Coast. Here are the states they passed through, from which special-event operators will transmit: Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Missouri, Montana, Nebraska, North Dakota, Ohio, Oregon, Pennsylvania, South Dakota, Washington and West Virginia.

The explorers returned with maps of the areas they traversed, plant specimens, and information about the terrain and native people. The expedition enabled the U.S. to claim the Oregon region, which included the areas that now comprise Washington, Oregon and Idaho.

## The Future of AI in Amateur Radio

*I asked Chat GPT AI (artificial intelligence software) to: write a 700 word article on artificial intelligence in amateur radio. This is the result.*

Amateur radio, or ham radio, has been a hobby for many people for over a century. It has been used to communicate with people from all over the world, participate in contests and experiments, and even provide emergency communication during disasters. However, the integration of artificial intelligence (AI) in amateur radio has opened up new and exciting possibilities for enthusiasts.

One application of AI in amateur radio is digital signal processing (DSP). DSP is used to filter and process radio signals to improve their quality. It is particularly useful in cases where weak or noisy signals are received. AI algorithms can help identify patterns in radio signals and distinguish between noise and actual signals, allowing for more accurate and efficient filtering. AI can also improve the accuracy of the filters, enabling the DSP to better discriminate against unwanted signals.

In addition to improving the quality of radio signals, AI can also be used to automate many aspects of station control. This can include antenna selection and tuning, frequency management, and even the monitoring of incoming signals. The use of AI in station control can improve efficiency and accuracy, allowing the operator to focus on other aspects of the radio communication.

One example of automated station control is the use of AI in antenna selection and tuning. An AI-powered system can analyze the current conditions, such as the frequency and propagation conditions, and automatically select and tune the best antenna for the current situation. This can save the operator time and effort, as they no longer need to manually switch and tune antennas.

Another application of AI in amateur radio is in the use of software-defined radio (SDR) technology. SDR allows users to tune into a wide range of frequencies and modes, and AI can be used to automatically identify and classify different types of signals. This can be particularly useful in emergency situations, where quick and accurate identification of signals can be critical. AI algorithms can also be used to analyze the data obtained from the SDR and provide insight into the propagation conditions and other factors that can affect radio communication.

AI can also be used to optimize antenna design for maximum performance. Antennas are a crucial component of any radio system, and AI can be used to identify the most effective antenna designs for different frequencies and modes. By analyzing data on radio signals, AI algorithms can identify the most efficient and effective antenna designs.

One exciting application of AI in amateur radio is the development of intelligent antennas. Intelligent antennas use AI algorithms to adapt and optimize their performance based on the current conditions. This can include adjusting the shape, length, and direction of the antenna to improve performance. Intelligent antennas can also be used to mitigate interference from other signals or sources of electromagnetic noise.

The use of AI in amateur radio is not without its challenges. One of the main challenges is the need for accurate and reliable data. AI algorithms rely heavily on data, and inaccurate or incomplete data can lead to incorrect or ineffective results. The quality of the data can be affected by factors such as the quality of the radio receiver and the propagation conditions. Therefore, it is important for operators to ensure that they have access to accurate and reliable data.

Another challenge is the need for specialized knowledge and skills. The use of AI in amateur radio requires a certain level of technical knowledge and expertise. Operators need to be familiar with the principles of AI, DSP, SDR, and antenna design, among other things. This can be a barrier to entry for some enthusiasts who are not familiar with these concepts.

Despite these challenges, the integration of AI in amateur radio has the potential to revolutionize the hobby. AI-powered technologies can improve the quality and efficiency of radio communication, making it easier and more accessible for people to participate. AI can also be used to provide insights into radio propagation conditions and other factors that can affect radio communication.

In conclusion, the integration of AI in amateur radio has opened up new and exciting possibilities.

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## Saving the Sea Serpent, A Ham Radio Adventure Story

*I asked Chat GPT AI (artificial intelligence software) to write a 600 word adventure story about young ham radio operators. This is the result.*

The crackling of static filled the room as Jack and Emily sat huddled around their ham radio. They were young and passionate radio operators, with a love for adventure and exploration. With their homemade antennas and a thirst for discovery, they were ready to embark on their next great escapade.

One sunny afternoon, while scanning through the frequencies, their radios picked up a faint signal. It was a distress call from a faraway island. Without hesitation, they sprang into action. Their nimble fingers adjusted the dials, trying to establish a clearer connection.

"Hello? Can anyone hear us?" Jack transmitted into the microphone, his voice filled with determination. After a moment of tense silence, a weak voice responded.

"This is Captain Roberts of the abandoned vessel, 'Sea Serpent.' We're stranded on an uncharted island in the Pacific. Please, we need help!"

Excitement surged through Jack and Emily's veins. They were about to embark on their most daring adventure yet. Determined to assist the stranded captain and his crew, they packed their essentials, including their radios and a map of the region.

The journey to the Pacific was long and arduous. The young operators faced treacherous storms and powerful waves, but their spirits remained unyielding. Finally, they spotted the mysterious island on the horizon. The island was shrouded in dense jungle, with towering cliffs and a sense of untamed wilderness.

As they approached, they set up camp near the shoreline and powered up their radios. Through their expert knowledge of Morse code, they tapped out their presence to the stranded crew, ensuring their safety and indicating that help was on the way. The code echoed through the night, reaching the ears of Captain Roberts and his crew, giving them a glimmer of hope.

The following morning, armed with determination, Jack and Emily ventured into the unexplored heart of the island. They hacked through dense foliage, crossed treacherous rivers, and climbed steep cliffs. With each step, their radio crackled, keeping them connected to the outside world and to Captain Roberts.

As they pushed deeper into the jungle, they stumbled upon hidden traps, long-forgotten by the island's previous inhabitants. Through quick thinking and the occasional call for guidance, they managed to evade danger. With the radio's guidance, they discovered ancient ruins, lost treasures, and even encountered rare wildlife. The island had more secrets than they ever imagined.

Days turned into weeks, but Jack and Emily never faltered. They persevered, their friendship and their bond with the radio becoming stronger with each passing moment. They laughed, shared stories, and marveled at the beauty of the island's untouched landscapes.

Finally, after what seemed like an eternity, they reached the stranded ship. The crew, tired and desperate, greeted Jack and Emily with tears of joy. With their radios as their lifeline, the young operators relayed a message to the mainland, ensuring a swift rescue operation.

As they awaited their rescue, the crew regaled Jack and Emily with stories of their adventures on the high seas. The young operators, in turn, shared tales of their journey through the island's untamed wilderness.

When the rescue team arrived, Jack and Emily bid farewell to the crew and the island that had become their temporary home. They had saved lives, explored the unknown, and forged bonds that would last a lifetime.

Back at home, Jack and Emily's adventure became the talk of the town. Their ham radios were hailed as instruments of heroism, and their bravery inspired a new generation of young explorers.

From that day forward, the world would remember the tale of Jack and Emily, the fearless young ham radio operators who defied all odds and found true adventure amidst the crackle of static.

## GEARS CENTURY MEMBERS

Michael Ellithorp    Kent Hastings  
Bennett Laskey    Jim Van Sickle  
Stephen McDermott

*We thank these members for their extra support.*

### GEARS Officers:

President.....Kent Hastings WA6ZFY  
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Your dues and contributions support our local repeaters, ARES, Field Day and outreach events to keep amateur radio alive in our area. GEARs also makes donations to support other local repeaters and clubs.

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